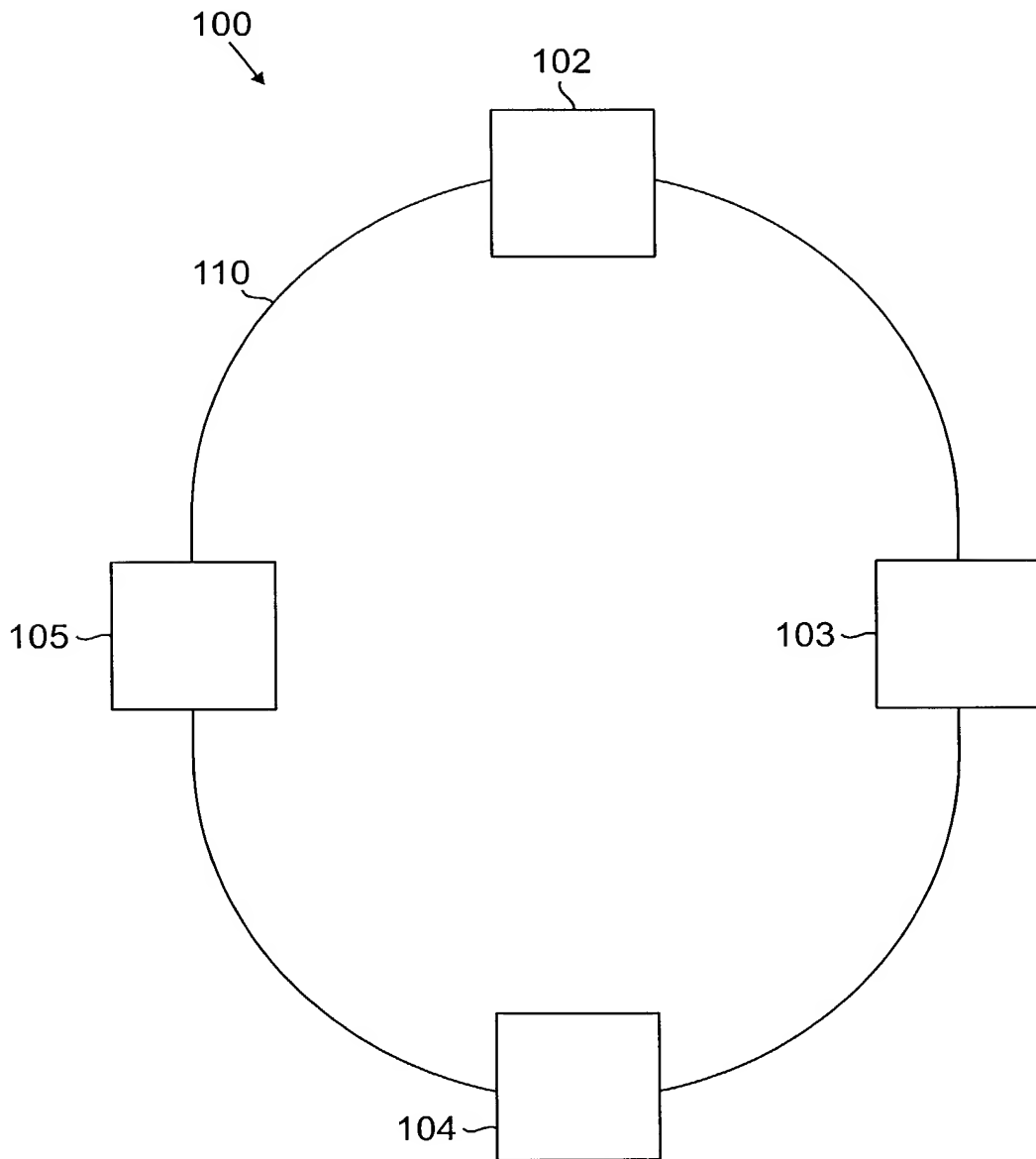
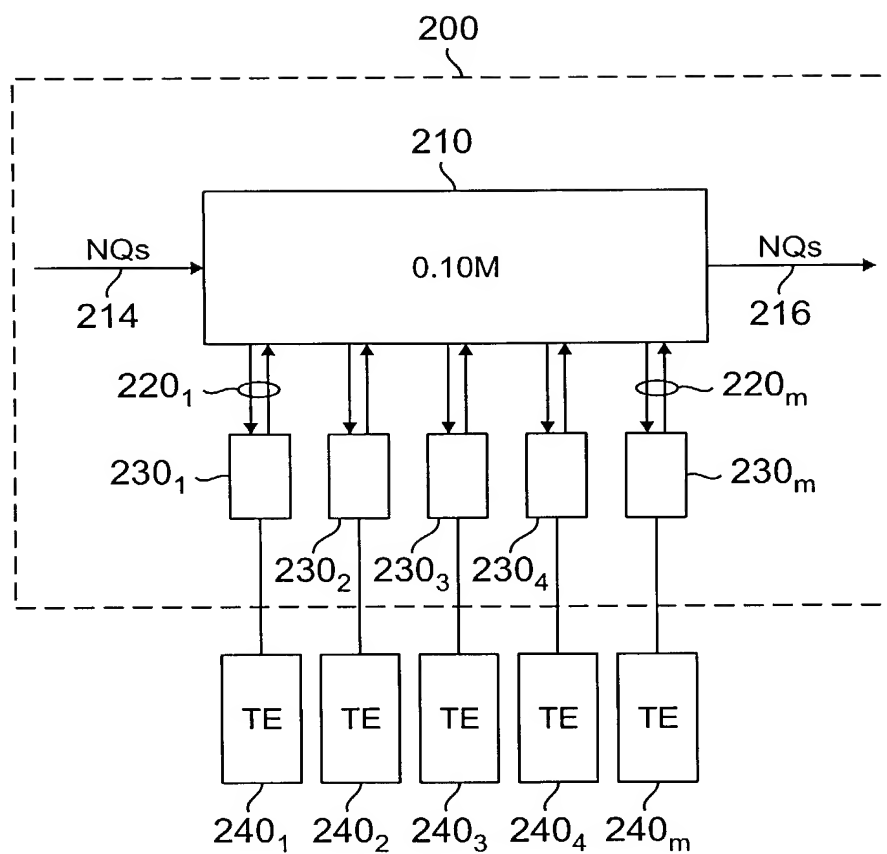


1/7



**FIG. 1**  
**(PRIOR ART)**



**FIG. 2**  
**(PRIOR ART)**



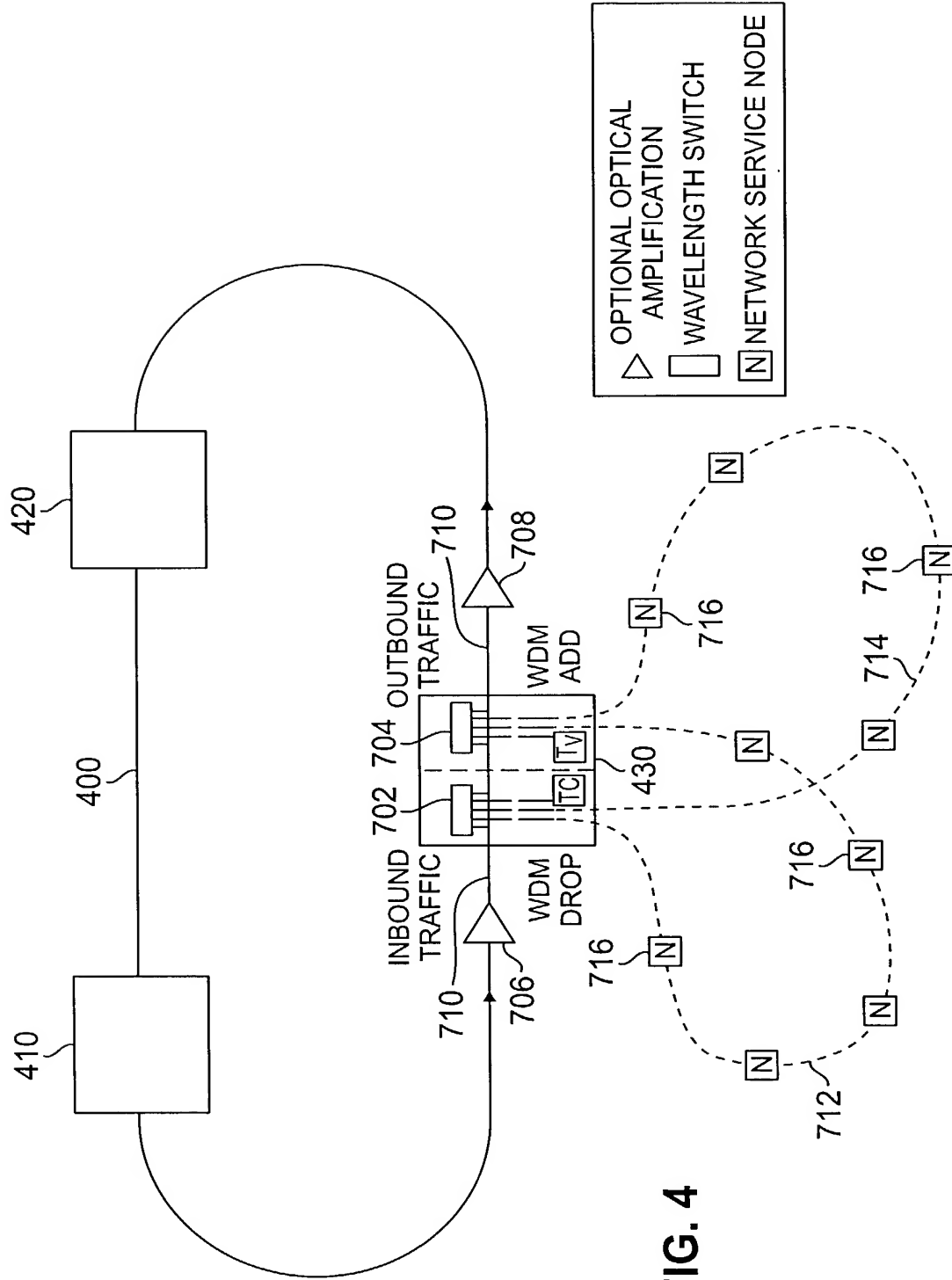
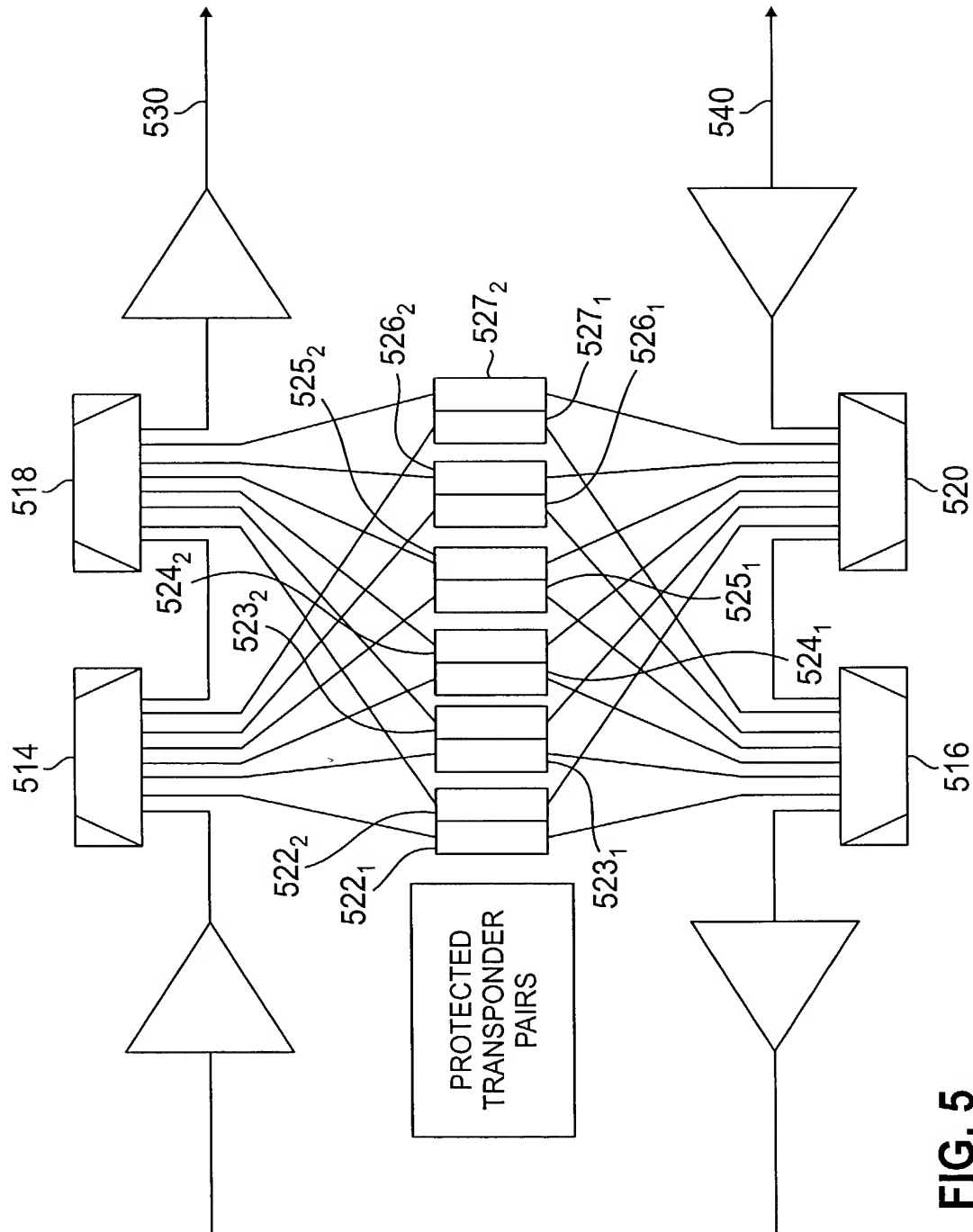


FIG. 4

COMMUNICATION SYSTEM TO ADD/DROP SIGNALS ONTO SUBTENDING RINGS  
(1 FIBER OF UNIDIRECTIONAL RING OR A SINGLE FIBER BIDIRECTIONAL RING)



**FIG. 5**

# SWITCHING SYSTEM TO ADD/DROP SIGNALS WITH INDEPENDENT NODE PATHS (LINK AND NODE DISJOINT)

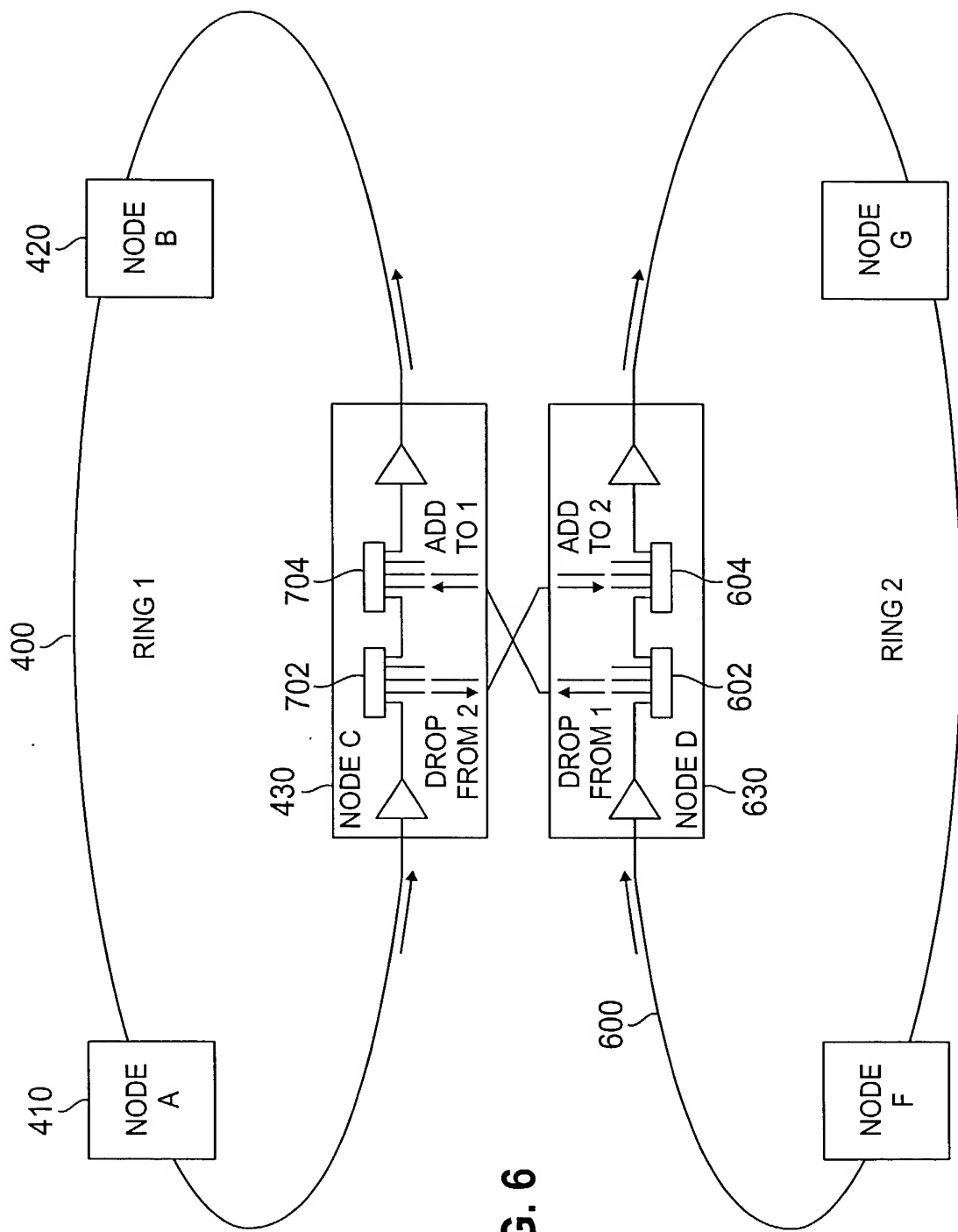
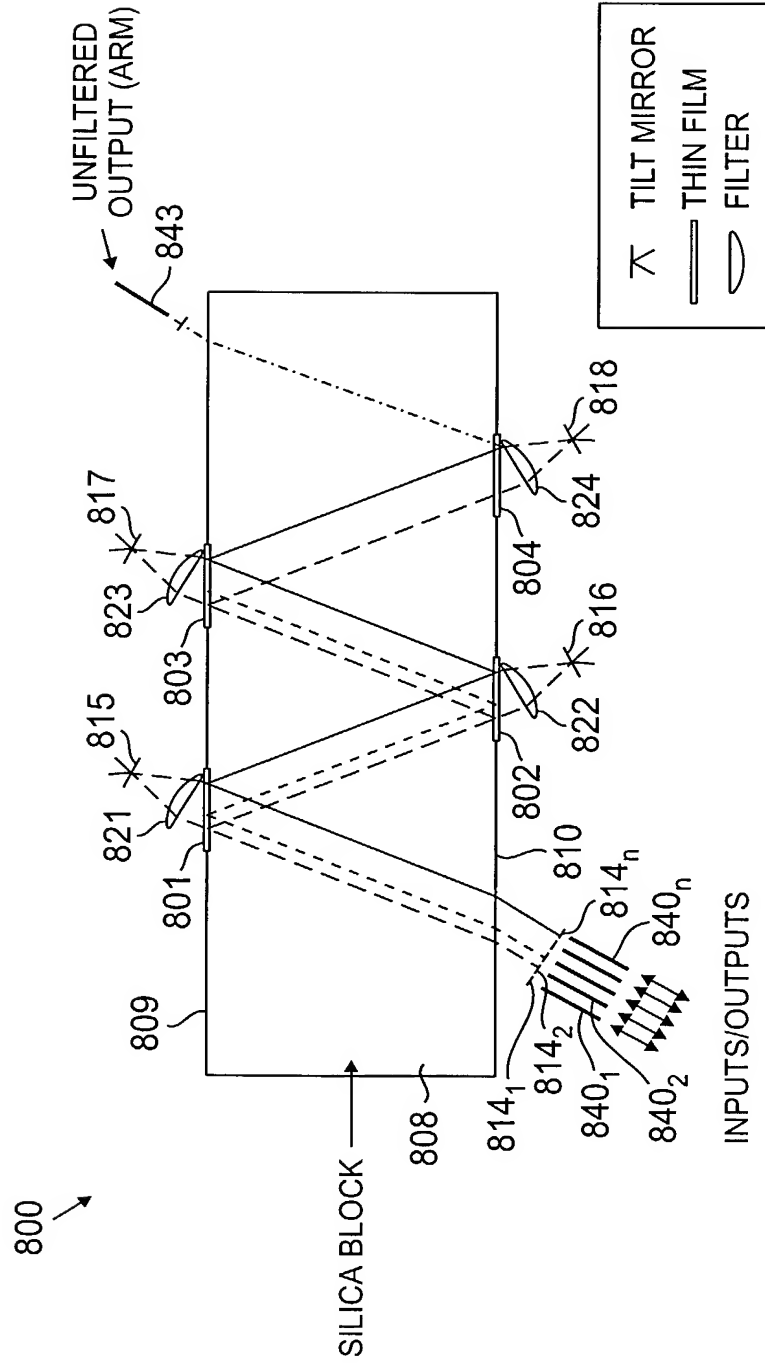


FIG. 6

COMMUNICATION SYSTEM TO EXCHANGE MULTIPLE WAVELENGTH RINGS  
(1 FIBER OF UNIDIRECTIONAL RING OR A SINGLE FIBER BIDIRECTIONAL RING)



## BIDIRECTIONAL INPUTS/OUTPUTS WITH INDEPENDENT WAVELENGTH DISTRIBUTION

**FIG. 7**